Alaskan Way Viaduct and Seawall Replacement Project

Seattle Monorail Project

ILLUSTRATION COURTESY OF SEATTLE MONORAIL PROJECT

ILLUSTRATION COURTESY OF SOUND TRANSIT

Sound Transit Link Project

CHAPTER 11 - OTHER THINGS TO CONSIDER

1 What are cumulative effects and why do we study them?

Cumulative effects are partly the result of this project, but also depend in part on decisions that are not controlled by the lead agencies. The best way to describe cumulative effects is to give an example of what they are. On its own, this project will affect the surrounding area in many ways. For example, traffic will have to be detoured for any of the alternatives. By itself, this effect might not be considered substantial. However, there are several other major construction projects planned in Seattle, such as the Monorail and Link light rail projects. These projects also require some detours or rerouting transit in a similar timeframe as the Alaskan Way Viaduct and Seawall Replacement Project. Collectively, these projects could have a cumulative effect on downtown traffic and transit if adequate upfront planning and coordination does not occur.

Depending on the alternative, the character of Seattle's central waterfront could change considerably. The Tunnel, Bypass Tunnel, and Surface Alternatives open up views that haven't existed for many years and can lower noise levels. The Tunnel Alternative in particular allows for new public open space. These changes could make the central waterfront more conducive to renovation or revitalization of nearby private property. The combined effect could be a change in how people live, work, and play along the central waterfront. Similarly, changes to Mercer Street and other streets north of Battery Street Tunnel and better connections with S. Atlantic Street and S. Royal Brougham Way south of the stadiums could combine with private development to change the overall character of these areas. These are cumulative effects are beyond control of the project lead agencies. Cumulative effects also consider past and present activities that are independent of this project. These are included with the analysis in Chapters 5 through 9.

2 What other projects are underway or planned in Seattle and what are their possible cumulative effects?

What other major projects are planned in downtown Seattle and what are their possible cumulative effects?

The other two major construction projects planned for downtown Seattle are the Monorail and Link light rail projects. Exhibit 11-1 shows the interaction between construction schedules for these projects.

Link Light Rail Project - The Link light rail line is planned to run from Westlake Station in the Downtown Seattle Transit Tunnel to S. 154th Street near the Sea-Tac International Airport. Initial construction work began in 2003 and will continue through 2009. As part of the project, the Downtown Seattle Transit Tunnel will be closed between 2005 and 2007 to equip the tunnel for joint bus and light rail operations. While the transit tunnel work is underway, buses that currently run in the transit tunnel would need to operate on downtown surface streets.

Monorail - A Monorail line will be built through downtown from West Seattle to Ballard. Construction is expected to begin in 2005, and the initial segment is expected to open in December 2007. The full line should be running by 2009. The proposed alignment through downtown Seattle would primarily be located within the existing roadway. Beginning in the south end, the route will cross SR 99 at approximately S. Horton Street and continue on First Avenue S. up to Safeco Field. It will transition over to Fourth Avenue S. and connect with Second Avenue. Through most of downtown it will run on Second Avenue. In Belltown it will shift to Fifth Avenue and continue north to Seattle Center. Monorail stations are proposed at about eight locations through this segment.

It is likely that construction of sections of the Link light rail and/or Monorail will overlap with some viaduct and seawall construction. If construction schedules overlap, they could have a cumulative effect on the downtown area. Together, these projects could:

Major Downtown Transportation Construction Projects

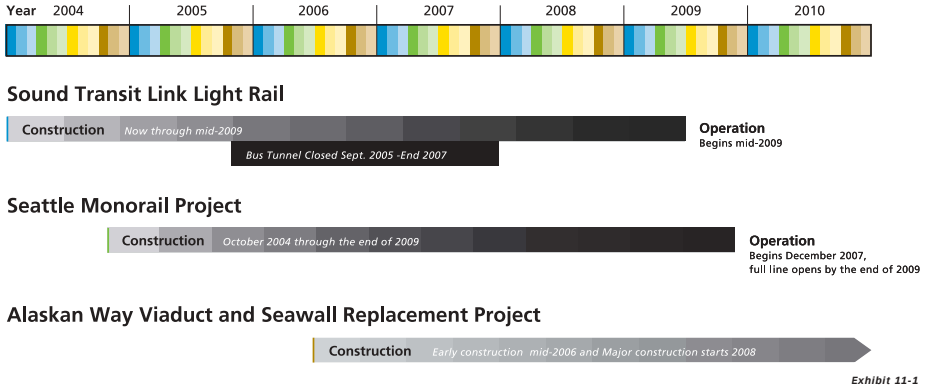

Exhibit 11-1

What are cumulative effects?

Cumulative effects are the combined effects of all actions on a given resource, regardless of who has taken the action.

- Intensify traffic congestion through downtown. This would cause problems for drivers, particularly transit and emergency service providers. Excessive congestion in downtown could negatively affect businesses if people chose to avoid downtown due to congested areas.
- Cumulatively increase construction noise and temporary air quality impacts.
- Cause problems for utility providers. All three projects require utilities to be relocated. Funding, having enough skilled workers, and ensuring minimal utilities disruptions could be a challenge or cause delays in construction.

The lead agencies well as Sound Transit, the agency responsible for Link, and Seattle Monorail Project will work together to minimize these potential effects with upfront planning and coordination. As project design and construction planning continues, the lead agencies will continue to work with these other agencies to minimize possible cumulative effects.

What other construction projects are planned around Seattle and what are their cumulative effects?

There are many projects that are planned or may be built in Seattle in the future. Several major transportation improvements are being considered in the Seattle area, but funding is uncertain. These are I 405, SR 520, and SR 509. Because they are not connected directly with SR 99, they would have little, if any, cumulative effect. Other transportation projects with potential cumulative effects are discussed below.

SR 519 Intermodal Access and Surface Street Improvements - This is a joint City of Seattle, WSDOT, and FHWA project that involves reconstructing connections between Seattle and I-90 and elevating S. Atlantic Street above the railroad tracks to avoid vehicle conflicts. The first phase of this project at S. Royal Brougham Way and S. Atlantic Street is mostly complete. As a result, a new on-ramp to I-90 has been built at Fourth Avenue S. and S. Royal Brougham Way. The second phase of this project has not yet been designed, so construction would not likely begin until at least 2010. As such, it is difficult to predict potential cumulative effects from these projects. However, since they have the same lead agencies, coordination of any impacts could be easily accomplished and may result in benefits to both projects.

Mercer Street Corridor Improvements - The City of Seattle is planning improvements in the South Lake Union area. Mercer Street and Valley Street would be reconstructed and reconfigured between Dexter Avenue N. and I-5. Construction is expected between 2006 and 2009, so construction of the Mercer improvements could overlap with the schedule for viaduct and seawall construction. If completed by 2010 as planned, these improvements could help reduce congestion during construction. Also, the two projects could produce a long-term cumulative benefit to the area from improved east-west connections and traffic flow. The City will continue to coordinate between the two projects to ensure that possible cumulative construction effects are minimized.

I-5 Improvements - WSDOT is developing a plan to rebuild portions of northbound and southbound I-5 from Tukwila to Northgate. Improvements may include better concrete and joint reinforcements and improving traffic flow by changing lane configurations at bottleneck locations. The project is scheduled to start construction in 2007 if full funding becomes available.

Terminal 46 - The Port of Seattle owns Terminal 46, an 80+-acre parcel of land south of S. King Street. The site is now a large container terminal. The land is leased through 2010, with the potential to extend the lease to 2015. Ultimately, the Port of Seattle may continue container operations or could redevelop the terminal into a more dense urban activity center. Specific plans and construction dates have not been identified. If redevelopment were to move forward, it could overlap with part of viaduct and seawall construction. At this time, there are no cumulative effects expected, but development plans at Terminal 46 will need to be monitored to make sure that cumulative effects are not an issue.

Colman Dock Ferry Terminal Expansion - Washington State Ferries (part of WSDOT) is planning to expand their operations at the Colman Dock Ferry Terminal. Environmental review of this project is expected to begin soon. Several alternatives will be considered; most of them would require expanding the existing over-water pier and doing some maintenance on the pier.

The viaduct project team and Washington State Ferries are coordinating planning for these two projects since both projects interact so closely. This coordination should help minimize the potential for negative cumulative effects in the corridor. Possible effects are likely to include traffic congestion and effects to aquatic life.

3 What about indirect effects?

An indirect effect is an effect that may be caused by a project, but would occur in the future or outside of the project area and is reasonably foreseeable. As an example, consider a new interchange added to a freeway out in the country. A direct effect would be more cars on connected roads; the indirect effect could be new gas stations and restaurants.

There are few indirect effects that might result from this project. This is because the project replaces an existing facility rather than creating a new one. Therefore, the indirect effects are subtler influences rather than overt causes of future or distant change. Indirect effects of each alternative are included in the analysis described in Chapters 5 through 9.

4 What irreversible decisions or irretrievable resources would be committed to building the project?

This project is located in an urban downtown environment that is highly developed. As such, the only anticipated irreversible commitment of resources for this project would be converting existing commercial, industrial, or retail properties into roadway land uses. All of the alternatives would require purchasing property, and some of the needed properties have buildings on them which may be demolished. The number of properties needed is similar for all alternatives.

A comprehensive list of known projects in downtown Seattle is contained in Appendix B, the Alternatives Description and Construction Methods Technical Memorandum.

Additional information on energy consumption is located in Appendix V, the Energy Technical Memorandum.

There are a few resources that would be irretrievable once the project was completed. If archaeological resources are located in areas where soil improvements are made, they would no longer be retrievable. In these areas, the cement grout material needed to fix the seawall would encapsulate any archaeological resources not found and recovered during construction.

Other resources that would not be retrievable would be the physical materials used to build the project. These include resources such as aggregate used to make cement and asphalt, steel needed to make rebar and steel structures, oil to make asphalt, and fill material. These are finite resources; however, they are not currently in short supply. Contaminated soil, spoil material, and excavated soil would be transported to landfills, thus the space used for this project would not be available for other disposal uses. However, there is adequate space available for this disposal at landfills.

Finally, the energy used to build the project or keep it operating would not be retrievable. Energy that will be consumed includes the gasoline used by cars to drive on the roadway; the electricity needed to keep lights and electrical systems running; and gasoline, oil, and electricity needed for construction. For construction, the project would use substantially less than 0.1 percent of the total energy consumed in the state of Washington in 2000. Therefore, project construction will hardly affect energy sources or fuel availability in the state. Currently, energy is used to keep the viaduct's electrical systems operating and by cars using the viaduct. The viaduct would continue to use energy to keep it operating whether this project is constructed or not. If it's built, the project won't substantially increase energy consumption levels for any of the alternatives.

5 What are the tradeoffs between short-term uses of environmental resources and long-term gains (or productivity) from the project?

This question is really asking if the long-term benefits from this project make it worth the short-term costs. Because the project involves replacing existing infrastructure, this question is pretty easy to answer. All Build Alternatives require many years of construction. Even with the best planning, construction will be disruptive and difficult for the many people who travel, work, and live along the project corridor. That's the short-term cost. When the project is complete, we will have many more years with a solid, safe transportation route and seawall. Seattle will have a new “front porch” that will serve us and future generations. That's the long-term benefit.

The region has relied on the viaduct and seawall for several generations. Both the seawall and viaduct are important assets to Seattle's and the region's infrastructure. We depend on the seawall to hold up the soil that is the foundation of our central waterfront. Utility infrastructure in the project area include power, water, sewer, natural gas, and communications systems. It holds up the viaduct and the Alaskan Way surface street that together carry more than 110,000 trips each day. It holds up buildings located on the waterfront and some of Pioneer Square. The seawall is much more than a concrete face along our waterfront-it defines the waterfront as we know it. Without it, we would lose a portion of the city that plays an important role in our economy and provides an area where people from near and far congregate to work, live, and play. Worse still, failure of the viaduct and seawall in an earthquake such as the 2001 Nisqually earthquake could cause tremendous damage, injury, and even loss of life. Even a relatively small earthquake could cause damage that disrupts the region for many months. Unlike most projects, the No Build Alternative is not a feasible option.

While the Build Alternatives have a lot in common, there are important differences in short-term costs and long-term benefits. The time needed and impacts of building each alternative are different. Each alternative has different long-term benefits. Some key long-term benefits are the ability to move people and goods through and to downtown Seattle, protection during the next earthquake, and a more attractive waterfront.